2. Water Resources

Brief descriptions of physical characteristics are provided for the streams within the project study area. All streams were delineated in the field and GPS mapped. Physical characteristics of stream channels are described in Section 2.b and **Table 9 in Appendix C**. Mapping depicting stream locations is presented in **Figure 7**.

a. Water Quality Classification

The project study area is located within sub-basins 040401 and 040402 of the Little Tennessee River Basin (DEM 1997) and is part of USGS hydrologic unit 06010202 (USGS 1974). The Upper Little Tennessee River sub-basin (040401) contains the upper-most reaches of the Little Tennessee River from the North Carolina/Georgia state line north to the confluence of Burningtown Creek south of Franklin, North Carolina (DWQ 2007). The Lower Little Tennessee River sub-basin (040402) is known for its clean water and pristine areas (DEM 1997).

Best Usage Classifications (BUC) and Stream Index Numbers (SIN) follow *Classifications and Water Quality Standards* published for each river basin (DEM 1993), as updated through November 4, 2003. Unless otherwise noted, unnamed streams carry the same BUC as its receiving waters. Five named streams occur within the project study area: Bird Branch, Little Tennessee River, Tellico Creek, Ledbetter Branch, and Loudermilk Creek. Ten unnamed tributaries (UTs) occur within the project study area: nine UTs to the Little Tennessee River and one UT to Bird Branch. Physical characteristics of these streams are provided in Section 2.b.

The Little Tennessee River [SIN 2-(26.5)] has been assigned a BUC of B from a point 0.4 mile upstream of N.C. Highway 28 to the Nantahala River Arm of Fontana Lake. Bird Branch (SIN 2-39), Ledbetter Branch (SIN 2-42), and Loudermilk Creek (SIN 2-43) have been assigned a BUC of C from their sources to the Little Tennessee River. Tellico Creek (SIN 2-40) has been assigned a BUC of C Tr from its source to the Little Tennessee River.

Class B waters are freshwaters protected for primary recreation which includes swimming on a frequent or organized basis and all Class C uses (DEM 1996). Class C waters are freshwaters protected for secondary recreation, fishing, aquatic life (including propagation and survival), wildlife, and agriculture. Secondary recreation is any activity involving human body contact with water on an infrequent or incidental basis (DEM 1993). The supplementary classification Tr correspond to freshwaters protected for natural trout propagation and survival of stocked trout (DEM 1996). The unnamed tributaries have not been assigned a separate SIN (DWQ 2003a).

There are no Outstanding Resource Waters (**ORW**), High Quality Waters (**HQW**), Water Supplies in natural and undeveloped watersheds (**WS-I)**, or Water Supplies in predominantly undeveloped watersheds (**WS-II)** within 3.0 miles upstream or downstream of the project study area (DEM 1993, DWQ 2003b). However, the uppers reaches (outside of the project study area) of Tellico Creek and Loudermilk Creek are identified as a **HQW/ORW** watershed (NCGIA 2002). These areas have been identified as having excellent water quality in association with an outstanding resource (NCGIA 2002). Point and non-point source pollution management strategies are applicable to these waters. No stream that flows through the project study area is designated as a National Wild and Scenic River or a state Natural and Scenic River.